Big Mountain Resort Capstone Project

Problem Statement

How can Big Mountain Resort more fully capitalize on its facilities?

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1 Context

The Big Mountain business team wants some guidance on how to select a better value for their ticket price. They are also considering a number of changes that they hope will either cut costs without undermining the ticket price or will support an even higher ticket price.

2 Criteria for success

Increased revenue
Reduced cost
Remain the premium resort option

3 Scope of solution space

Increase ticket price (reflective of the recently installed chair lift)
Develop additional resort features (terrain park)

4 Constraints within solution space

Basing their pricing on just the market average does not provide the business with a good sense of how important some facilities are compared to others. This hampers investment strategy.

5 Stakeholders to provide key insight

Director of Operations - Jimmy Blackburnand
Database Manager - Alesha Eisen

6 Key data sources

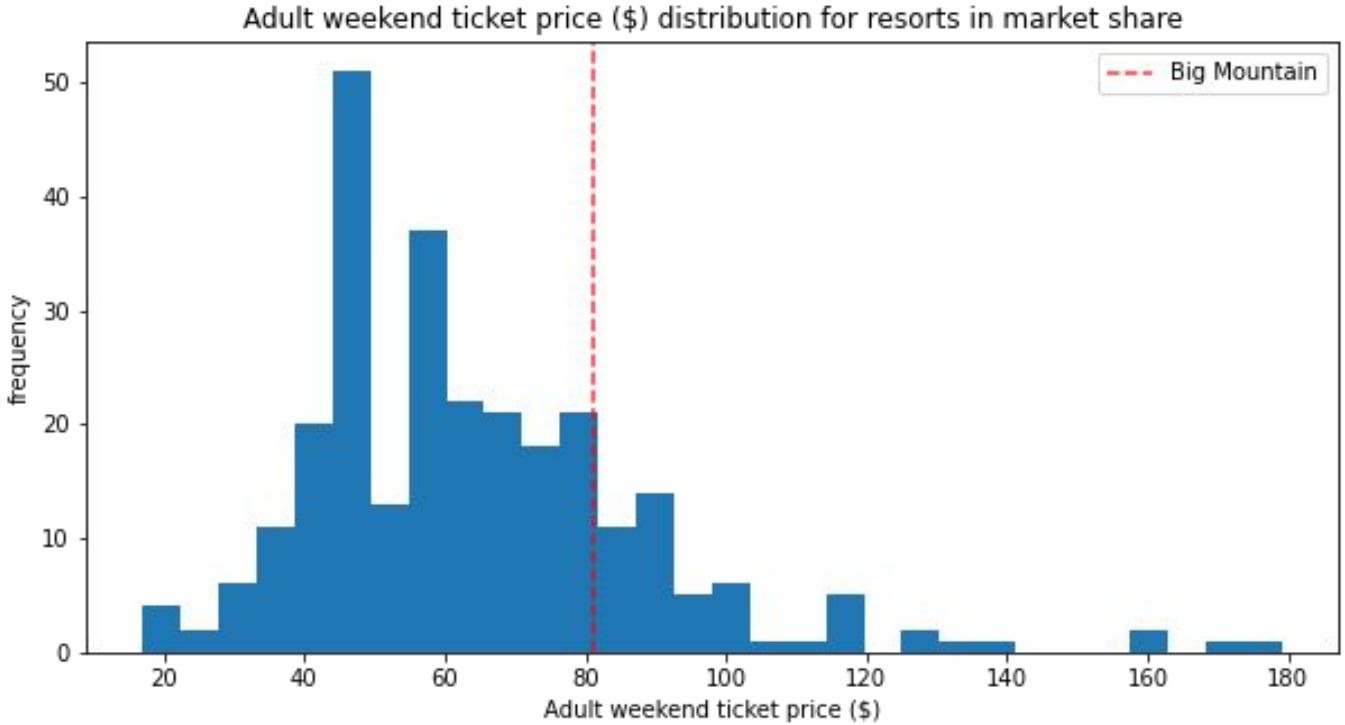
CSV datafile provided by the data manager

Recommendations/Key Findings

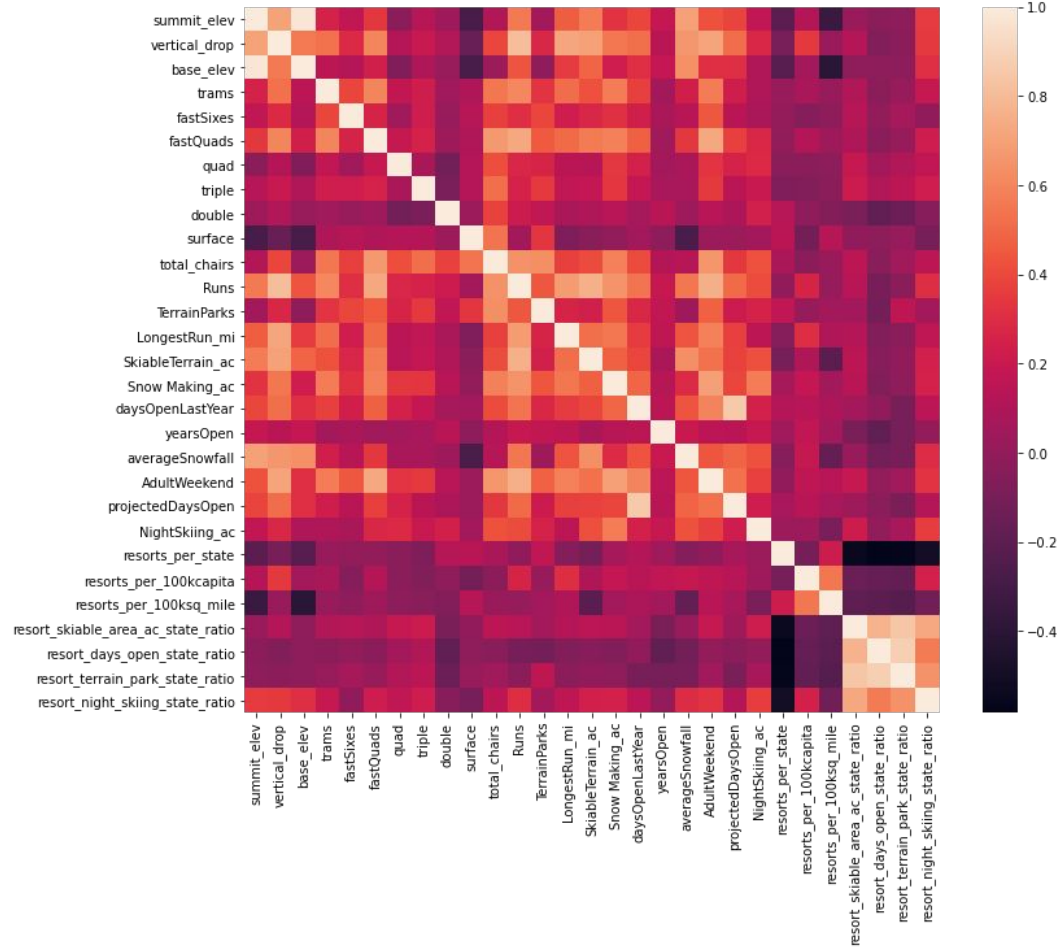
- With Big Mountain's current Adult Weekend ticket price at $81, our modelling suggests its facilities could support an increased price of $95.87. Even with an expected mean absolute value of $10.39, this suggests the resort has room for an increase.

- Adding a new chair lift would increase operating costs but also support an increase in ticket price of $8.61. Regarding run closures, our model predicts closing one run would not affect ticket price support, and while closing 2 or 3 would reduce support, it may as well close 4 or 5 in that case as there would be no further loss in support.

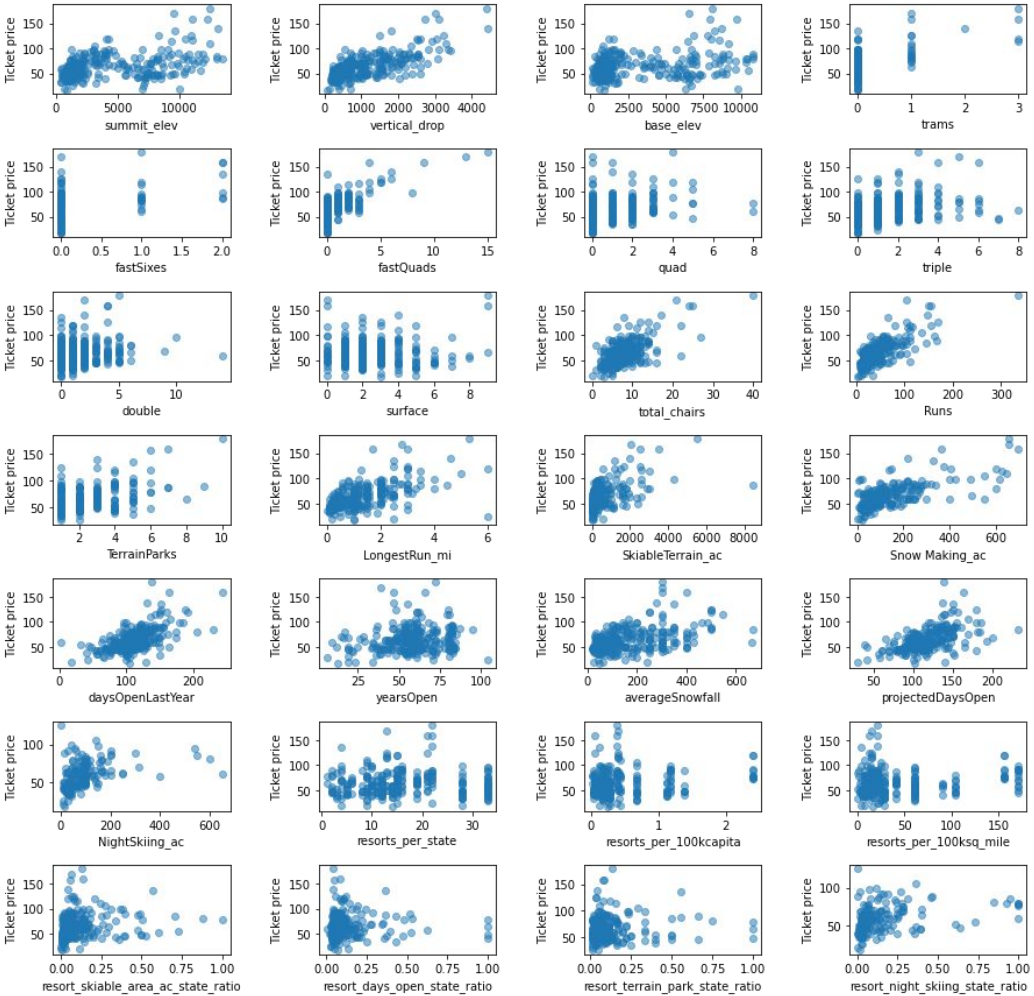
- It could be useful to have more price data about the resorts other than ticket price. It is possibly that Big Mountain is undervalueing other aspects of their faciilites and undercharging. While this model would be useful, one would have to gather more data to draw more comparisons.



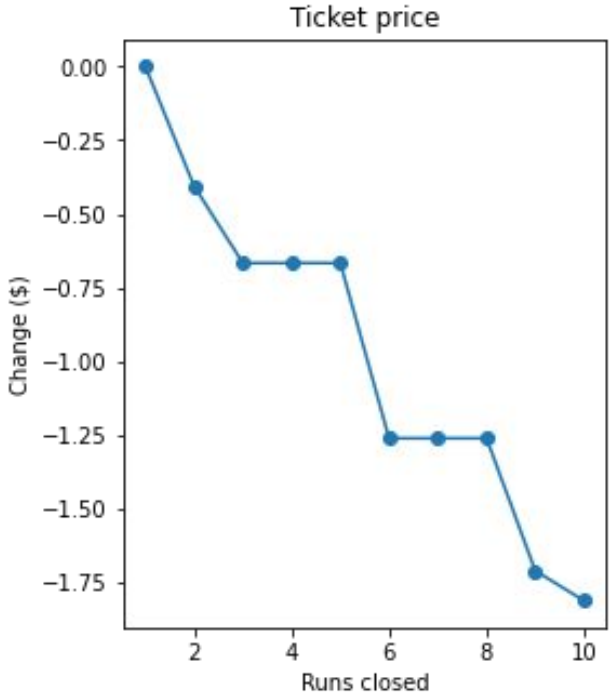
This graph shows that Big Mountain sits relatively high amongst all other resorts for Adult Weekend ticket price.

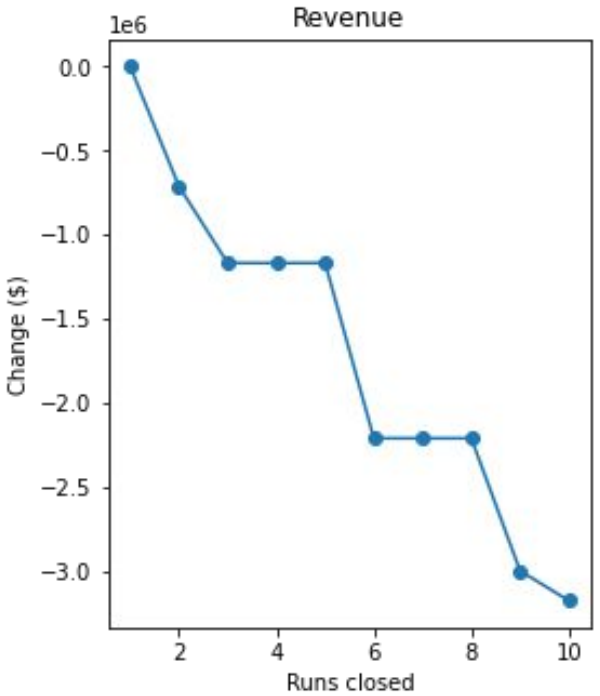


This heatmap shows that Adult Weekend ticket price tends to be strongly correlated with a resort's number of fast quad chair lifts, runs, and amount of snow making.



These scatterplots further show that Adult Weekend ticket price tends to be strongly correlated with a resort's number of fast quad chair lifts, total chairs, runs, and vertical drop.





These graphs show the predicted results of run closures. Our model predicts closing one run would not affect ticket price support, and while closing 2 or 3 would reduce support, it may as well close 4 or 5 in that case as there would be no further loss in support.

Summary

We measured 277 resorts on 25 different factors to build a predictive model for ticket price. Through a series of tests we determined that the features most strongly correlated to Adult Weekend Ticket price were number of fast quads, runs, and amount of snow making. Our modelling suggests Big Mountain's facilities could support an increased price of $95.87. Even with an expected mean absolute value of $10.39, this suggests the resort has room for an increase. The scenario of adding a new chair lift would increase operating costs but also support an increase in ticket price of $8.61. Regarding run closures, our model predicts closing one run would not affect ticket price support, and while closing 2 or 3 would reduce support, it may as well close 4 or 5 in that case as there would be no further loss in support.